

SUPPORTING INFORMATION

High performance rigid and flexible visible-light photodetectors based on aligned X(In, Ga)P nanowire arrays

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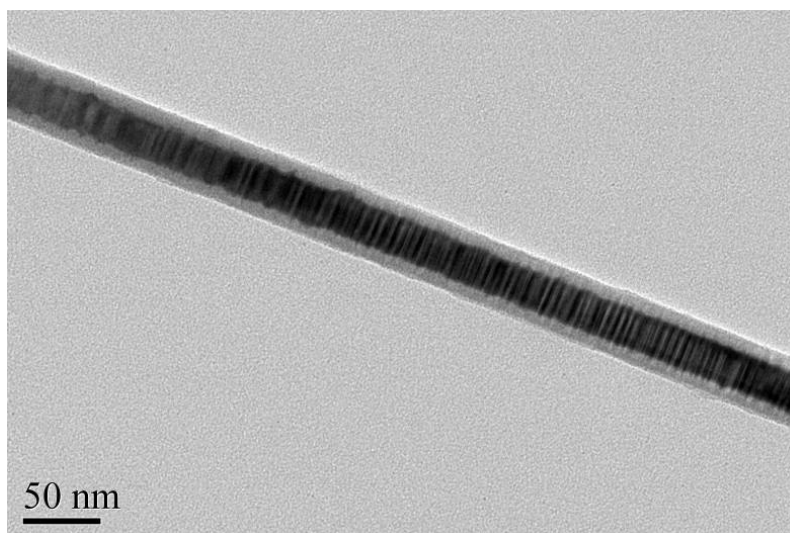


Figure S1 High-magnification TEM images of the InP NWs.

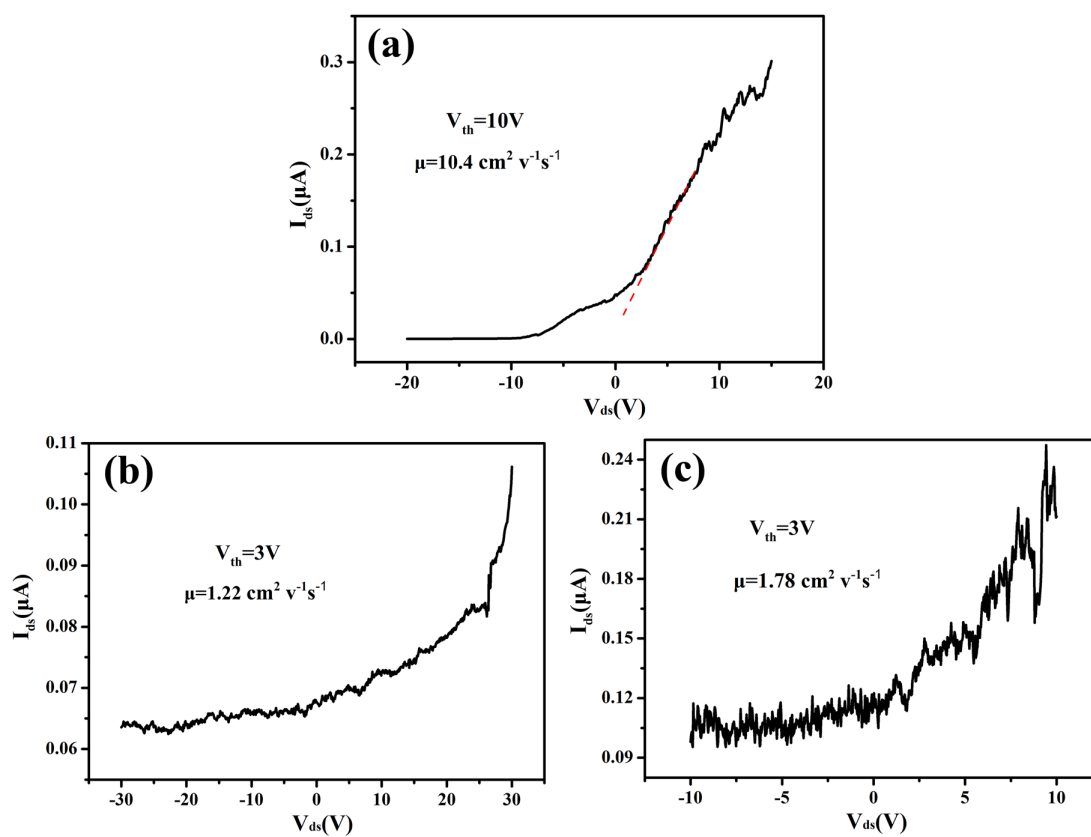


Figure S2 Effective mobilities based on three single InP devices, The mobility range on single devices is about $1 \sim 10 \text{ cm}^2 \text{ V}^{-1} \text{ s}^{-1}$.

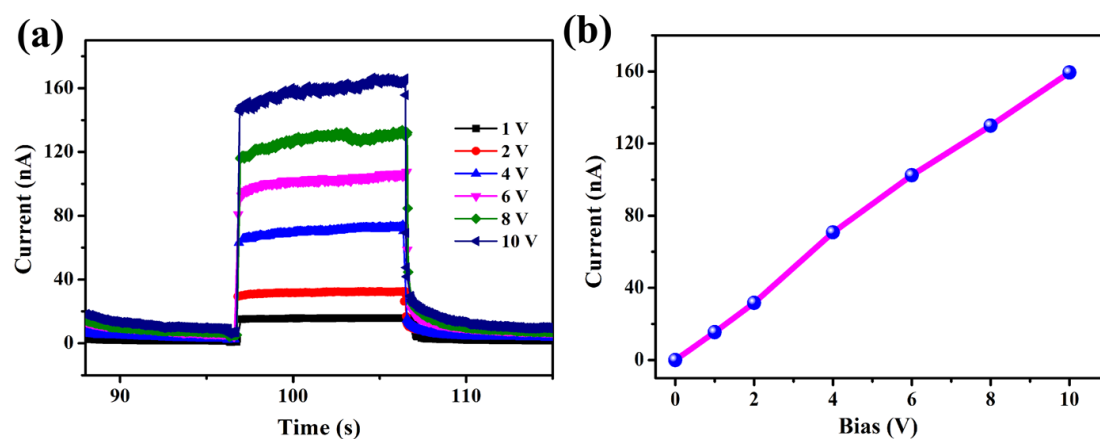


Figure S3 Photoreponse properties of single InP NW PD on rigid SiO₂/Si substrate. (a) Photocurrent versus time plots of the device using by red light (633 nm) at an intensity of 3.15mW/cm² at different biases. (b) Photocurrent versus voltage plots for the single NW device in the dark and at light intensity of 3.15mW/cm².

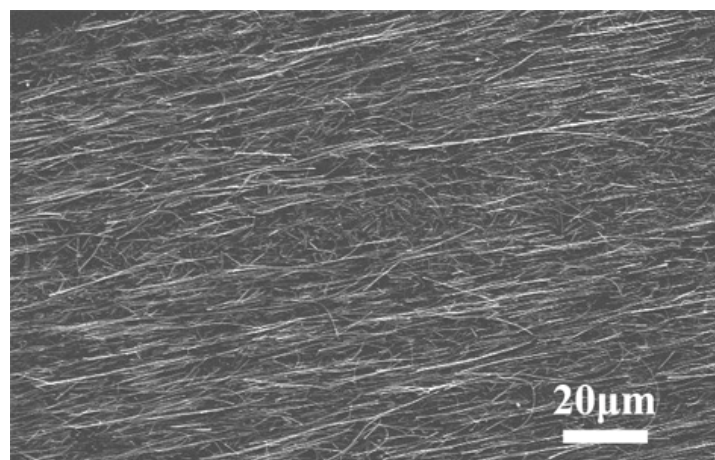


Figure S4 SEM image of aligned InP NW arrays on SiO₂ coated Si substrates

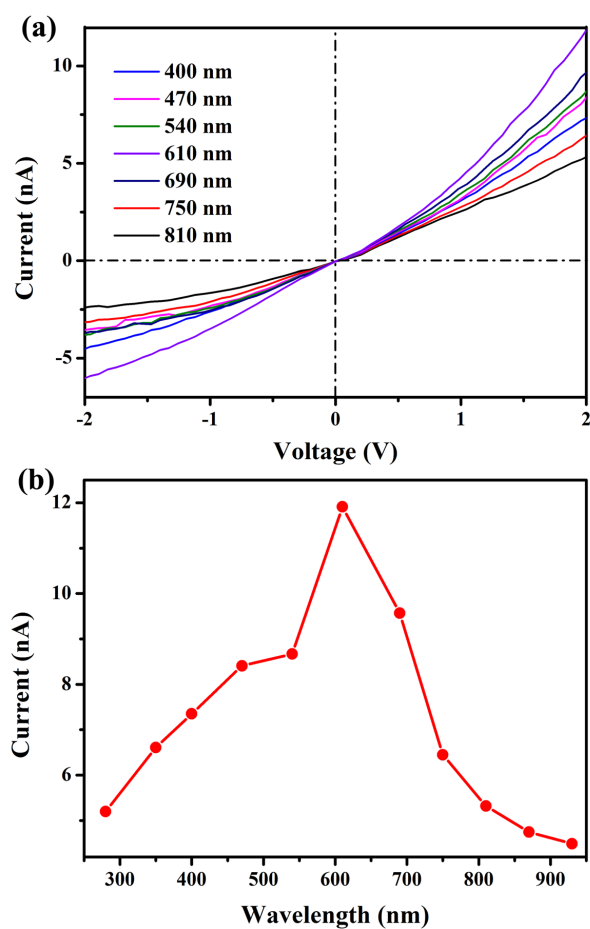


Figure S5 Current-voltage curves of the device illuminated by lights with different wavelengths. The light intensity was kept constant at 0.9 mW/cm².

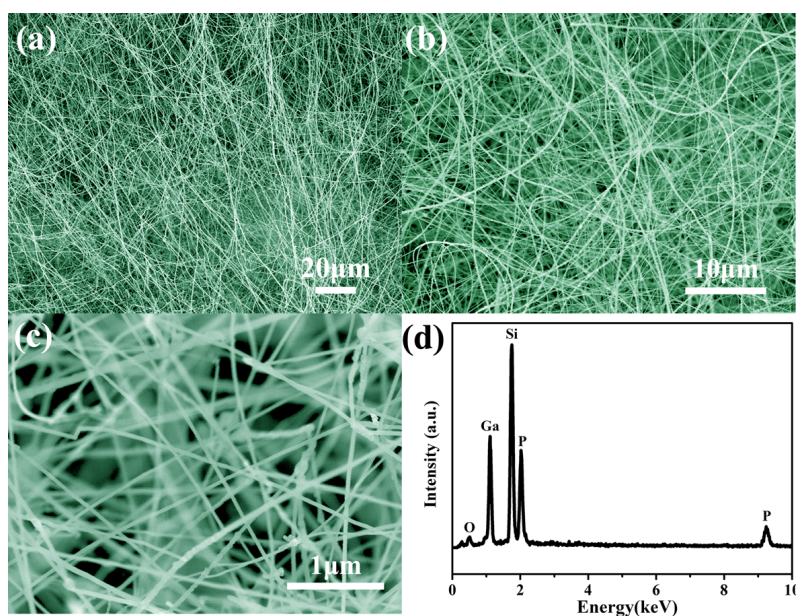


Figure S6 (a-c) low-magnification and high-magnification SEM images of the as-synthesized GaP nanowires. (d) EDS spectrum of a single GaP nanowire.